REMARKS

The Applicant respectfully requests entry of the above amendment.

Regarding the rejections of the claims, applicant respectfully traverses the assertions in the previous office action.

In response to the rejection of claims 9-10 under 35 U.S.C. §101, for allegedly being directed to non-statutory subject matter, an information carrier comprising a medium mark and a watermark having a predefined relationship with the medium mark as in claims 9 and 10 are clearly data structures causing a processor (e.g. reader of claim 11) to manipulate data in a specific way.

In response to the rejection of claims 1, 4-5, 9-11 and 16 under 35 U.S.C. §103(a), for allegedly being unpatentable over U.S. patent 5,412,718 to Narasimhalu in view of U.S. patent 5,930,369 to Cox, the differences between the claims and the combination of citation are such that the subject matter as a whole would not have been obvious at the time the invention was made, to those of ordinary skill in the art.

Regarding the examiner's comments for this rejection, Narasimhalu does not disclose any digital signature as that term is used in the art. A digital signature is formed by encrypting information with the originator's private-key to digitally sign the information and providing the recipient of the signed information with the originator's public-key for decrypting the information to prove that the signed information is from the originator and that the information has not been changed since it was signed. The only thing referred to as a signature in Narasimhalu is a list of non-uniformities in the media, that identifies the media. That has nothing to do with digital signatures.

Using the signature of Narasimhalu to form a watermark would not allow the information to be tracked since the signature would only identify the media.

The suggestion in Cox for unambiguously identifying the owner of the information is only related to one element of each of claims 10 and 16 of the claims of this rejection.

More specifically with regard to claims 1 and 5, the combination of the citations does not suggest the combination of: "an information carrier having a medium mark representing a first bitpattern", "generating a second bitpattern according to a predefined relationship to the first bitpattern", and "encoder means for embedding a watermark representing the second bitpattern in the information to be recorded," as in claims 1 and 5. Neither of the citations suggests using a media mark for generating a watermark or any advantage in using a media mark for generating a watermark. The advantage of the invention is that the watermark can be decoded and compared to the media mark to determine if a recording is authorized.

Neither Cox nor Narasimhalu discloses a media mark as defined in applicant's specification, for example, from page 1, line 24 to page 2 line 5 in the specification. In Narasimhalu, the physical non-uniformities due to imperfections in the fabrication of such medium (see column 4, lines 21-25) is not a media mark.

The examiner's statement that digital signatures and watermarks are synonyms has no merit since they are not related areas of art. The examiner's statement about transformation of media marks into digital signatures is not understood because neither this application nor any of the citations suggest transforming media marks into digital signatures. I do not understand the relevance of the examiner's statements.

With regard to claim 4, there is no suggestion in the combination of citations that the encoder means used for encoding the watermark be identifiable from the watermark. In Cox only the owner of rights in the recording is identifiable from the

watermark. The purpose of the invention herein is to combat piracy in which the owner of the recorder is not the owner of the rights to the information.

The examiner's arguments on page 2 of the previous office action are irrelevant and incorrect. Narasimhalu does not suggest digital signatures as that term is known in the art. The only thing referred to as a signature in Narasimhalu is a list of physical non-uniformities of the media due to manufacturing imperfections. This list of imperfections is not in any way related to the owner of rights to the information recorded on the disk or to the encoder used to encode a watermark in the information.

More specifically with regard to claim 9, the combination of the citations does not suggest the combination of "an information carrier comprising: a medium mark representing a first bitpattern" and "recorded information including a watermark representing a second bitpattern having a predefined relationship to the first bitpattern," as in claim 9. Neither of the citations, either suggest using a media mark for generating a watermark, or suggest any advantage in doing so. In the invention, the watermark is decoded and compared to the media mark to determine if the recording was authorized.

With regard to claim 10, there is no suggestion in the combination of citations that the recorded information be identifiable from the watermark. In Cox only the owner of rights in the recording is identifiable from the watermark. The examiner is correct that the extraction of the watermark in Cox requires the original recorded information so that the information must be identified. A pirate can extract a legitimate watermark from another recording and embed a pirated version with the legitimate watermark. An advantage of including an identification of the information in the watermark is to allow verification that the watermark that is extracted from information is really for the information from which it was extracted.

With regard to claim 11, the combination of citations does not suggest the combination of "a medium mark representing a first bitpattern in information reproduced from a record carrier" and "a second bitpattern represented by a watermark in the reproduced information", and "means for verifying a predefined relationship between the second bitpattern and the first bitpattern," as in claim 11. Neither of the citations suggests using a media mark for generating a watermark or any advantage in using a media mark for generating a watermark. The advantage of the invention of applicants is that a watermark can be decoded and compared to the media mark to determine if a recording was authorized.

In addition, The combination of citations teaches away from the invention because Narasimhalu teaches away from "introducing artificial indica or requiring a special hardware subsystem for achieving a copy protection scheme" (see abstract of Narasimhalu).

There is no suggestion in either citation to combine the citations, and they could not be combined. The purpose of Cox is to track the distribution of multimedia data and generating a watermark from nonuniformities in the media as done in Narasimhalu would not accomplish that objective. Generating a watermark from the nonuniformities of the media could not be used to accomplish the purpose of Cox.

The purpose of Narasimhalu is to prevent unauthorized copying and restrict use of information to designated devices by encrypting the information depending on unique non-uniformities in the devices. Using the non-uniformities of the media to create a watermark as in Cox, would not restrict use of information to designated devices.

In response to the rejection of claims 2-3, 12-14 and 16-17 under 35 U.S.C. §103(a), for allegedly being unpatentable over U.S. patent 5,412,718 to Narasimhalu in view of U.S. patent 5,930,369 to Cox as applied to claim 1 and further in view of the article "Applied Cryptography ..." by Schneier, the differences

between the claims and the combination of citation are such that the subject matter as a whole would not have been obvious at the time the invention was made, to those of ordinary skill in the art.

More specifically with regard to claims 2 and 12, the combination of the citations does not suggest encrypting medium mark databits to produce watermark databits as in claims 2 and 12, or any advantage in doing so. Narasimhalu uses a list of the non-uniformities of media to encrypt information so that if the information is copied to other media it can not be easily decrypted. Using the imperfections of the media to form a watermark would not accomplish the objectives of Narasimhalu. Cox embeds information with an watermark so that the owner of the information can be identified, but the media mark does not identify the owner of the information that a user might record on the media.

With regard to claims 3 and 13, the combination of citations does not suggest applying a one-way function to medium mark data bits to produce watermark data bits as in claim 3 and 13 or any advantage in doing so. Cox does not suggest using a one-way function.

With regard to claim 16, the combination of citations does not suggest applying a "cryptographic one-way function" to a medium mark bitpattern to form a watermark bitpattern. The citations do not suggest any advantage in doing so.

The citations can not be combined to produce the claimed invention because the combination would defeat the purpose of the citations. The combination of citations would not produce the claimed inventions. There is no suggestion in either citation to combine the citations.

In response to the rejection of claims 6-8 and 15 under 35 U.S.C. §103(a), for allegedly being unpatentable over U.S. patent 5,412,718 to Narasimhalu in view of U.S. patent 5,930,369 to Cox as applied to claim 5 above and further in view of the article "Applied Cryptography ..." by Schneier, the differences between

the claims and the combination of citation are such that the subject matter as a whole would not have been obvious at the time the invention was made, to those of ordinary skill in the art.

More specifically with regard to claim 6, the combination of citations does not suggest "creating the medium mark on the information carrier," as in claim 6. In fact the citations clearly teach away from the invention because Narasimhalu teaches away from "introducing artificial indica" (see abstract of Narasimhalu).

Also, with regard to claim 6, the combination of citations does not suggest "generating the first bitpattern from a seed," as in claim 6. There is nothing in the combination of citations suggesting that a bitpattern should be generated from a seed.

With regard to claim 7, the combination of citations does not suggest "a prepressed mark on a recordable information carrier," as in claim 7. Also, the combination of citations does not suggest using such a prepressed mark for generating a first bit pattern to generate a watermark as in claim 7.

With regard to claim 8, the combination of citations does not suggest applying "a cryptographic one-way function," to a seed to produce a medium mark as in claim 8.

The claims are definite and distinguished from the citations and Applicant respectfully requests the allowance of all claims.

The Commissioner is hereby authorized to credit any overpayment or charge any fee (except the issue fee) including fees for any required extension of time, to Account No. 14-1270.

Respectfully submitted,

By Michael E Belk
Michael E. Belk, Reg. 33,357
Patent Attorney
(914) 333-9643

CERTIFICATE OF TRANSMISSION
I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office at FaxNo. (703) 308-9052

On November 6, 2000
(Transmission Date)

By Michael E Belk
(Signature)
F:\WPDOCS\BJE\Z04BEB1.BER.DOC